

REMARKS

This Supplemental Amendment is a supplement to the Amendment filed on October 28, 2008, which was fully responsive to the non-final Office Action dated July 28, 2008, issued in connection with the above-identified application. In this Supplemental Amendment, claims 18, 20-22, 24, 26 and 28 have been further amended. No new matter has been introduced by the amendments made to the claims. Favorable reconsideration is respectfully requested.

The amendments made to claims 18, 20-22, 24, 26 and 28 have been made to further clarify the different “gaps” recited in the claims. These amendments are also consistent with the recommendations made by Examiner Monikang during the telephone interview conducted on October 15, 2008. The details of that interview were provided in the interview summary included in the Amendment filed on October 28, 2008, and will not be repeated here.

Additionally, the amendments herein to claims 18, 20-22, 24, 26 and 28 do not change the arguments presented in the Amendment filed on October 28, 2008 to address the prior art rejections to the claims.

However, for the convenience of the Examiner, the arguments presented in the Amendment filed on October 28, 2008 to address the prior art rejections will be repeated (in part) here.

In the Office Action, claims 18-28 and 35 have been rejected under 35 U.S.C. 102(e) as being anticipated by Ohashi (U.S. Patent No. 6,904,158, hereafter “Ohashi”).

The present invention, as recited in independent claim 18, is directed to a speaker device that includes two magnetic circuits. That is, a first magnetic circuit that has a first magnet and a first yoke, and a second magnetic circuit that has a second magnet and a second yoke. Additionally, a magnetic member is included as part of a vibration system, wherein the magnetic member is disposed in a gap between the first magnet of the first magnetic circuit and the second magnet of second magnetic circuit.

A force is applied to the magnetic member in a direction in which a vibration displacement of the magnetic member is increased due to a magnetic attraction force of the first magnet and the second magnet. As a result, an acoustic stiffness inside the housing of the speaker device is relaxed, and the bandwidth in which a low-frequency sound can be reproduced

is expanded. Based on these features, the magnetic flux of the magnet can be effectively utilized, and the size of the speaker device (especially, the length of the speaker device in the direction in which the diaphragm vibrates) can be reduced.

In the Office Action, the Examiner relies on Ohashi for disclosing or suggesting all the features recited in independent claim 18. However, as noted during the telephone interview conducted on October 15, 2008, Ohashi fails to disclose or suggest at least the following features of the claimed speaker device:

- 1 a first magnetic circuit disposed inside a housing and having a first magnet provided on a surface thereof facing the opening portion, and a first yoke provided lateral to the first magnet;
- 2 a second magnetic circuit having a second magnet disposed facing the first magnet of the first magnetic circuit via a first magnetic gap, and a second yoke provided lateral to the second magnet; and
- 3 a magnetic member made of a magnetic material other than a magnet, and connected directly or indirectly to a first voice coil bobbin, and disposed in the first magnetic gap between the first magnet of the first magnetic circuit and the second magnet of the second magnetic circuit.

Conversely, Ohashi discloses a speaker device which reproduces a sound of 20 kHz or more. Specifically, the speaker device is constructed such that signal current is supplied to the primary coil 15 provided on the pole piece 12a and induced current flows through the secondary coil 18 disposed opposite to the primary coil 15. The parameters of the primary coil 15 and the secondary coil 18 are adjusted in order to reproduce a sound of 20 kHz or more.

However, as noted during the October 15th telephone interview, the speaker device in Ohashi clearly has only one magnet 11 having a continuous doughnut shape, and one magnetic circuit that includes the magnet 11. Accordingly, Ohashi fails to disclose or suggest a second magnet or a second magnetic circuit. Additionally, nowhere does Ohashi disclose or suggest a magnetic member connected directly or indirectly to a first voice coil bobbin and disposed in a first magnetic gap between the first magnet of the first magnetic circuit and the second magnet of the second magnetic circuit.

Based on the above discussion, independent claim 18 is not anticipated or rendered obvious by Ohashi. Additionally, claims 19-28 and 35 are not anticipated or rendered obvious by Ohashi at least by virtue of their dependency from independent claim 18.

In the Office Action, claims 29, 33 and 34 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Ohashi; claim 30 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Ohashi in view of Dijkstra et al. (U.S. Patent No. 4,607,382, hereafter “Dijkstra”); and claim 31 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Ohashi in view of Dijkstra, and further in view of Proni (U.S. Patent No. 6,501,884, hereafter “Proni”).

Claims 29-31, 33 and 34 depend from independent claim 18. As noted above, Ohashi fails to disclose or suggest all the features recited independent claim 18. Additionally, after detailed review of Dijkstra and Proni, the references fail to overcome the deficiencies noted above in Ohashi.

Specifically, Dijkstra merely discloses a speaker device which reduces a resonant frequency by using mechanical springs (9, 10) with negative spring stiffness, detects a position of a diaphragm, and controls an average position of the diaphragm based on the detected position. Additionally, Proni only discloses a method of assembling a speaker device, in which a misalignment of a voice coil in a magnetic gap is eliminated.

Accordingly, no combination of Ohashi, Dijkstra and Proni would result in, or otherwise render obvious, the features of claims 29-31, 33 and 34 at least by virtue of their dependency from independent claim 18.

In light of the above, the Applicants respectfully submit that all the pending claims are patentable over the prior art of record. The Applicants respectfully request that the Examiner withdraw the rejections presented in the Office Action, and pass this application to issue.

The Examiner is invited to contact the undersigned attorney by telephone to resolve any remaining issues.

Respectfully submitted,

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November 7, 2008